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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,279	04/19/2004	Sung Gap Im	2658-0317P	9919
2292	7590	12/06/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			MACCHIAROLO, PETER J	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/826,279

Applicant(s)

IM, SUNG GAP

Examiner

Peter J. Macchiarolo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ogura (JP 03022393; “Ogura”).

Regarding claim 1, Ogura discloses in the abstract and figure 1 an organic electroluminescence (EL) device, comprising: a first electrode formed on a substrate; a second electrode formed to overlap said first electrode; an organic EL layer located between said first electrode and said second electrode; and a dielectric layer formed between said second electrode and said organic EL layer, wherein said dielectric layer contains an antioxidative material.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 9-12, 18, and 21 are rejected under 35 U.S.C. 103(a) as being anticipated by Lewandowski et al (US PG PUB 20050023972: "Lewandowski").

Regarding claim 1, Lewandowski discloses in figures 1 and 2 and in paragraph [0011] an electro-luminescence (EL) device, comprising: a first electrode (15) formed on a substrate [0008]; a second electrode (18) formed to overlap said first electrode; an EL layer (16) located between said first electrode and said second electrode; and a dielectric layer (17) formed between said second electrode and said EL layer, wherein said dielectric layer contains an antioxidative material [0011]. having reduced power consumption .

Although Lewandowski is silent to the EL device being organic, this is inferred in [0004]. Furthermore, the Examiner takes official notice that organic EL devices are known in the art to be thinner and less expensive to manufacture than inorganic EL devices, while also requiring less power to operate. Furthermore, one of ordinary skill in the art will immediately recognize the dielectric layer of Lewandowski can be implemented into an organic EL device while still achieving the benefits as taught by Lewandowski.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Lewandowski's device

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using organic EL device to allow for thinner, less expensive device having reduced power consumption.

Regarding claims 9 and 18, although Lewandowski is silent to the thickness of the dielectric layer, Lewandowski does teach it should be as thin as possible to reduce weight and bulk.

Since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the proper size of a component involves only routine skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Lewandowski's dielectric layer no more than 10-80 angstroms thick to reduce weight and bulk.

Regarding claim 10, although Lewandowski is silent to a hole injection layer, hole carrier layer, electron carrier layer, and an electron injection layer, the Examiner takes official notice that these layers and configuration is known in the art. The reasons and motivation for combining are the same as for claim 1 above.

Regarding claim 11, Lewandowski discloses in [0008] that the front electrode comprises ITO.

Regarding claim 12, the limitations herein have been discussed at the above rejections to claims 1 and 10 and will not be repeated.

Regarding claim 21, Lewandowski is silent to a method for manufacturing the device.

However, one skilled in the art will recognize that manufacturing such a device will comprise the recited steps of forming. Since only generic method steps and no specific method steps are claimed, the structure taught by Lewandowski meets Applicant's recited method step limitations.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the EL device of Lewandowski with the method of claim 21, since the method steps are obvious in light of the resultant structure.

Claims 2, 6, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewandowski in view of Hiraga et al (US PG PUB 20040195206: "Hiraga").

Regarding claims 2, 6, and 16 Lewandowski is silent to the exact antioxidative material used.

However, Hiraga teaches in [0249]-[0252] that many different materials may be used to provide an antioxidant function, such as a known organic material, phenol resin derivative, which will strengthen the overall oxidation prevention function.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Lewandowski with the antioxidative material of Hiraga.

Claims 3, 7, 8, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewandowski in view of Yamazaki et al (US PG PUB 20050206313: "Yamazaki").

Regarding claims 3, and 8, Lewandowski is silent to the exact antioxidative material used, but teaches that a variety of materials can be used and added to the dielectric layer, such as antioxidants and pigments.

However, several metallic powder antioxidant materials are known in the EL art, such as barium, as evidenced by Yamazaki at paragraph [0190]. One would include barium oxide in Lewandowski's dielectric layer to strengthen the overall oxidation prevention function. Furthermore, barium is known as a primary ingredient in pigments, which Lewandowski further teaches is desirable.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the dielectric layer of Lewandowski with a barium antioxidant to not only improve the overall oxidation prevention function, but also to function as a pigment for the overall device.

Regarding claim 7, although not expressly stated, it is known in the art that barium has a low work function.

Claims 4, 5, 13-17, 19, and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewandowski in view of Hiraga in view of Yamazaki.

Regarding claims 4 and 14, Lewandowski is silent to the exact antioxidative material used, but teaches that a variety of materials can be used and added to the dielectric layer, such as antioxidants and pigments.

However, as discussed above, Hiraga and Yamazaki teach an organic and metallic antioxidant ingredient. One would be motivated to combine Hiraga and Yamazaki's ingredients into Lewandowski's dielectric layer to further increase the overall oxidation prevention function with the ability to include a barium pigment.

Regarding claims 5, and 13, although Lewandowski, Hiraga, and Yamazaki is silent to the exact amount of organic material and metallic powder, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Further, one would be motivated to construct the device of Lewandowski, Hiraga, and Yamazaki with the recited composition for a variety of reasons. For example, improve the overall oxidation prevention function, and including a barium pigment with required color and light transmission rate. Further, material availability and manufacturing methods both require sensitive parameters which need to be met.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Lewandowski, Hiraga, and Yamazaki with the recited composition.

Regarding claim 15, Lewandowski is silent to TFT's.

However, Yamazaki teaches using TFT's allows for improved control for an EL device. The reasons for combining and motivation are the same as claim 14.

Regarding claims 16, 17, 19, and 23-27, the limitations herein have been previously discussed above and will not be repeated.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

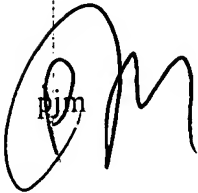
USPN 6642650 to Struye et al is evidence that barium is used as a pigment for an organic EL display. USPN 5652067 to Ito et al is evidence that organic EL devices are preferable over inorganic EL layers and have hole and electron transport and injection layers.

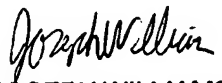
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375. The examiner can normally be reached on 8:30 - 5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571) 272-2475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).




JOSEPH WILLIAMS
PRIMARY EXAMINER